

CUMULATIVE INDEX 2001

Volume 17

January	ENDOCRINE AND METABOLIC DYSFUNCTION SYNDROMES IN THE CRITICALLY ILL, pages 1-252
April	ACUTE CARDIAC CARE, pages 253-481
July	ONCOLOGY IN CRITICAL CARE, pages 483-820
October	SEDATION, ANALGESIA, AND NEUROMUSCULAR BLOCKERS IN CRITICAL CARE MEDICINE, pages 821-1027

Note: Page numbers of article titles are in **boldface** type.

- Abdominal complications, in critical care cancer patients, 732-735
- Abdominal pain, in hematopoietic stem cell patients, 684-685
- Acetaminophen, in ICU, 946
- Acidosis, metabolic, in cancer patients, 520-522
- Acquired immunodeficiency syndrome (AIDS), thyroid alterations and, 54
- Acute adrenal insufficiency, circulatory shock and, 715-716
- Acute cardiac care, antiplatelet agents in, **365-377**. See also *Antiplatelet agents, in acute cardiac care*.
- antithrombotic therapy in, **379-390**
- thrombolytic therapy in, **379-390**
- Acute cerebral ischemia, magnesium for, 168-169
- Acute coronary syndromes, percutaneous coronary intervention for, 313-314
- Acute gastric dilatation, diabetic ketoacidosis and, 92
- Acute heart failure, evaluation of, initial, 321-324
- exacerbation of, management of, **321-335**
- cardiac surgery, 327-328
- mechanical circulatory support, 329-331
- modification of standard therapy, 324-326
- parenteral inotropic, 326-327
- transplantation, 328-329
- vasoactive therapy, 326-327
- Acute lung injury, cancer treatment agents and, 490-492
- Acute mitral regurgitation, cardiogenic shock caused by, 406
- Acute myocardial infarction, evaluation of, initial, 412-413
- magnesium for, 166-168
- management of, **411-434**
- balloon angioplasty in, 418-419
- fibrinolytic and antiplatelet therapy combination in, 420-421
- glycoprotein IIb/IIIa inhibitors in, 420
- intracoronary stents in, 420
- medical, 421-423
- percutaneous revascularization in, 418-423
- thrombolytic therapy in, 414-418
- metabolic modulation of, **469-476**
- thrombolytic therapy for, 384-385
- Acute non-ST-segment elevation myocardial infarction, and unstable angina, management of, 423-430
- Acute renal failure, in bone marrow transplantation, 583-586
- intrinsic, malignancy-related, 581-583
- radiographic contrast-induced, 580-581
- Acute respiratory distress syndrome (ARDS), 625-626
- cancer treatment agents and, 490-492
- diabetic ketoacidosis and, 92
- ventilator strategies for, 637
- Acute respiratory failure, diagnosis of, 624
- in critically ill cancer patients, **623-646**
- airway obstruction and, 634-635
- chemotherapy-induced lung injury and, 628-629

- Acute respiratory failure (*Continued*)
 diffuse alveolar hemorrhage and, 632-633
 infections and, 626-628
 lymphangitic carcinomatosis and, 633
 noninvasive ventilation for, 637-638
 outcome of, 638-639
 paraneoplastic syndromes and, 635-636
 prognosis of, 638-639
 pulmonary leukostasis and, 633
 pulmonary thromboembolism and, 630-632
 transfusion-related lung injury and, 633-634
 tumor emboli and, 632
 in ICU, management of, 636-637
 postoperative, 624-625
 Acute ST segment elevation myocardial infarction, 413-423
 Acute tubular necrosis, aminoglycoside-related, 578-579
 Adenosine triphosphate (ATP), as energy source, 219-222
 Adrenal gland, in critical illness, pathophysiology of, 2-3
 Adrenal insufficiency, acute, circulatory shock and, 715-716
 causes of, 26-29
 evaluation of
 treatment of, 36-37
 Age, as factor in analgesic agents in ICU, 905-906
 as factor in thyroid function, 48-49
 Agitation, defined, 821-822, 1017
 sedation for, assessment of, Bispectral Index in, 973-978
 COMFORT Scale in, 972
 EEG power spectral parameters in, 973
 evoked responses in, 978
 future of, 982-983
 Harris Scale in, 969-970
 heart rate variability in, 972-973
 Motor Activity Assessment Scale in, 969
 Observer's Assessment of Alertness/Sedation Scale in, 971-972
 Ramsay Scale in, 969
 Richmond Agitation Sedation Scale in, 972
 Riker Sedation-Agitation Scale in, 969
 Sheffield Scale in, 970-971
 tools in, objective, 972-978
 subjective, 968-972
 Vancouver Interaction and Calmness Scale in, 971
 Visual Analog Scale in, 971
 cooperative, in ICU, 881-890
 in ICU. See also specific agents.
 monitoring of, effect of, in agitation assessment, 978
 Airway(s), upper, in hematopoietic stem cell patients, complications associated with, 681-683
 Airway access, in critical care cancer patients, 725-726
 Airway obstruction, in critically ill cancer patients, 634-635
 Alkalosis, metabolic, in cancer patients, 519-520
 Alpha-2 adrenergic agonists, adverse effects of, 889-890
 classification of, 882
 clinical pharmacology of, 885-888
 clinical trials of, 889
 G protein-coupled effector mechanisms in, 884
 in ICU, 881-890
 pharmacokinetic properties of, 888-889
 response of, substrates for, 884-885
 structure of, 883
 use of, history of, 882
 Alteplase, for acute myocardial infarction, 416
 Alveolar hemorrhage, diffuse, in critically ill cancer patients, 632-633
 Aminoglycoside(s), acute tubular necrosis caused by, 578-579
 Amiodarone, as factor in thyroid function, 50-51
 Amphotericin B nephrotoxicity, malignancy-related, 579-580
 Amyloid cardiomyopathy, heart failure caused by, 703-705
 Analgesia. See also *Sedation*.
 and sedation, in ICU, balancing of, 1015-1027. See also *Sedation, and analgesia, in ICU*.
 defined, 1017
 monitoring of, in agitation assessment, 976-979
 pharmacoeconomics of, analysis of, 1003-1013
 literature review of, 1005-1006
 models of, 1006-1012
 overview of, 1003-1006
 recommendations for, 1012
 preemptive, 900-901
 regional. See *Regional analgesia*.
 Analgesic agents, in ICU, 890-891, 899-923. See also *Opioid agonists, in ICU*.
 age-related considerations with, 905-906
 elimination impairment considerations with, 903-905
 options with, 906-917
 outcomes with, 919-920

- pharmacokinetics of, context-based, 903
- pharmacology of, 901-903
- receptors for, 901-903
- Anesthesia/anesthetics, regional. See *Regional analgesia*.
- Angina, stable, acute non-ST-segment elevation myocardial infarction and, 423-430
- Angioplasty, balloon, for acute myocardial infarction, 418-419
 - in percutaneous coronary intervention, 304
- Anisoylated plasminogen-streptokinase activator complex, for acute myocardial infarction, 414-416
- Anorexia, in critical care cancer patients, 785-788
- Anorexigen(s), pulmonary hypertension related to, 465
- Anthracycline(s), heart failure caused by, 700-701
- Anticoagulant(s), for pulmonary hypertension, 461-462
 - in acute cardiac care, traditional agents, 380-382
- Antidiuretic hormone (ADH), excess release of, syndromes of, 11-23
- Anti-inflammatory drugs, nonsteroidal, in ICU, 916
- Antimicrobial therapy, for sepsis in critically ill cancer patients, 554-556
- Antineoplastics, hypersensitivity reactions to, 484-485
- Antioxidant therapy
 - in clinical trials, 242-245
- Antiplatelet agents, in acute cardiac care, 365-377
 - aspirin, 367-368
 - clopidogrel, 368-371
 - eptifibatide, 372
 - for percutaneous coronary intervention, 373-374
 - glycoprotein IIb/IIIa receptor antagonists, 371-375
 - oral agents, 367-371
 - safety of, 375
 - ticlopidine, 368-371
 - with fibrinolytic therapy, for acute myocardial infarction, 420-421
- Antithrombin agents, in percutaneous coronary intervention, 311-312
- Antithrombotic therapy, in acute cardiac care, 379-390
 - heparin, 380-382
 - new agents, 382-384
- Anxiety, defined, 821, 1017
 - in ICU, 821-842
 - sedation for, 826-838
 - goals of, 826-828
 - practice parameters related to, 831-832
 - risks related to, 828-830
 - scales of, 830-831
- Anxiolysis, in ICU, 891-892
- Aortic regurgitation, 263
- Aortic stenosis, 263-264
- ARDS. See *Acute respiratory distress syndrome (ARDS)*.
- Arrhythmia(s), cancer treatment agents and, 486-488
 - cardiac, drug therapy for, advances in, 355-357
 - magnesium for, 165-166
- Arterial thrombosis, in critically ill cancer patients, 613
- L-Asparaginase, hypersensitivity reactions to, 484
- Aspirin, in acute cardiac care, 367-368
- Asthma, magnesium for, 162-164
- Atherectomy devices, in percutaneous coronary intervention, 284-287
- Atrial defibrillators, 350-351
- Atrial fibrillation, catheter ablation of, 344-346
 - prevention of, cardiac pacing in, 349-350
- Atrial flutter, catheter ablation of, 342-344
- Atrial septostomy, for pulmonary hypertension, 463-464
- Atrial tachycardia, incisional, ablation of, 346-348
- Atrioventricular valves, regurgitation of, 262-263
- Autoantibody(ies), factor VIII, in critically ill cancer patients, 607
- Bacterial infections, in critically ill cancer patients, 534-536, 545
 - in hematopoietic stem cell patients, 676
- Balloon angioplasty, for acute myocardial infarction, 418-419
 - in percutaneous coronary intervention, 282
- Barbiturate(s), in ICU, 866-868
- B-cell cancers, 543-544
- Benzodiazepine(s), context-sensitive half-life of, 851-853
 - in ICU, 843-862, 891-892
 - appropriate sedation with, 855-856
 - clinical application of, 853
 - complications of, 858-859
 - depth of sedation of, assessment of, 853-855
 - reversal of, 858
- pharmacodynamics of, 844-847
- pharmacokinetics of, 844-847
- Bicarbonate, for diabetic ketoacidosis, 90

- Biologic agents, hypersensitivity reactions to, 485-486
- Bispectral Index, in agitation assessment, 973-978
- Biventricular pacing, for congestive heart failure, 351-353
- Bleeding, in critically ill cancer patients, 599-622
pathophysiology of, 602-604
- Bone marrow transplant patients, pulmonary infiltrates in, evaluation of, 647-670. See also *Cancer patients, critically ill, pulmonary infiltrates in, evaluation of.*
- Bone marrow transplantation, acute renal failure in, 583-586
nutritional support in patients with, 762
- Bone metabolism, 142-143
- Brachial plexus blockade, 961
- Bronchoscopy, flexible, in evaluation of pulmonary infiltrates in critically ill cancer patients, 665-666
- Cachexia, in critical care cancer patients, 785-788
- Calcium, administration of, advantages of, 149-150
extracellular, regulation of, 140-141
for diabetic ketoacidosis, 91
intracellular, regulation of, 140
measurements of, 143
metabolism of, 139-143. See also *Calcium metabolism.*
- Calcium channel blockers, for pulmonary hypertension, 462
- Calcium homeostasis, in critical illness, 143-147
- Calcium metabolism, 139-143
PTH in, 141-142
- Cancer, coagulation system and, relationship between, 601-602
renal disease-related, 571-598. See also *Renal diseases, malignancy-related.*
- Cancer patients, critical care of, 721-742
clinical considerations related to, 721-722
CPR in, 791-803
dialysis in, 791-803
economic considerations in, 809-810
end-of-life decisions in, 805-811
ethical considerations in, 806-807
future considerations in, 810
intensive care, 791-803
legal considerations in, 807-809
malnutrition in, significance of, 743-744
mechanical ventilation in, 791-803
medical considerations in, 807-809
metabolic changes in, 744-745
nursing considerations in, 769-789
anorexia, 785-788
cachexia, 785-788
constipation, 776-778
diarrhea, 778-782
nausea and vomiting, 782-785
neutropenia, 772
oral mucositis, 773-776
thrombocytopenia, 771-772
nutritional assessment in, 745-748
nutritional support in, 743-767. See also *Nutritional support, in critical care cancer patients.*
surgical aspects of, 724-738
acute abdominal presentations, 732-735
airway access, 725-726
localized opportunistic pulmonary infections, 730-732
malignant pericardial effusions, 728-729
malignant pleural effusions, 726-728
problems related to, 725-738
sinusitis, 729-730
thromboembolic complications, 735-736
vascular access, 736-737
critically ill, acute respiratory failure in, 623-646. See also *Acute respiratory failure, in critically ill cancer patients.*
bleeding and thrombotic complications in, 599-622
clotting agents in, 615
DIC, 613-615
pathophysiology of, 602-604
thrombocytopenias, 606-608
thrombocytopenia, 604-606
infectious morbidity in, 531-569
defects in cell-mediated immunity, 539-542
granulocytopenia, 532-539
host immune system dysfunction, 532-545
humoral immune deficiency, 543-545
pneumonia, 545-551
prevention of, 544-545
sepsis and septic shock, 551-557
splenectomy-related, 544
pulmonary infiltrates in, and disease recurrence, 653
differential diagnosis of, 647-649
drug-induced lung injury and, 650-653
evaluation of, 657-667
chest radiography in, 661-663
CT in, 664-665
flexible bronchoscopy in, 665-666

- sputum evaluation in, 665
- surgical lung biopsy in, 666-667
- transthoracic needle aspiration in, 666
- infection and, 649-650
- pulmonary edema and, 654-657
- radiation-induced lung injury and, 650
- treatment-related lung toxicity and, 650
- fluid and electrolyte abnormalities in, 503-529. See also *Fluid and electrolyte abnormalities, in cancer patients.*
- surgical, critical care aspects of, 722-724
- treatment for, acute life-threatening toxicity of, 483-502
 - l-asparaginase, 484
 - biologic agents, 485-486
 - cardiac toxicity, 486-490
 - gastrointestinal toxicity, 497-499
 - hemorrhagic complications associated with, 494-497
 - hypersensitivity reactions to, 483-486
 - pulmonary toxicity, 490-494
 - taxanes, 484-485
 - thrombotic complications associated with, 494-497
 - hypersensitivity reactions to, 483-486
- Candidiasis, hepatosplenic, in critically ill cancer patients, treatment of, 556
- Carcinoid syndrome, circulatory shock and, 714-715
- Cardiac arrhythmias, magnesium for, 165-166
- Cardiac diseases, nutritional support in patients with, 759-760
- Cardiac electrophysiology, 337-364
 - extended ECG monitoring in, 338
 - new technology in, 338-342
 - noncontact endocardial activation mapping in, 340
 - nonfluoroscopic electroanatomical cardiac mapping in, 342-343
- Cardiac emergencies, diagnosis and management of, 441-444
- Cardiac mapping, nonfluoroscopic electroanatomical, 338-339
- Cardiac masses, circulatory shock and, 705-708
- Cardiac output, determination of, Doppler echocardiography in, 260
 - pulmonary artery catheter effects on, 282-284
- Cardiac pacing, advances in, 349-355
 - atrial fibrillation prevention, 349-350
 - for congestive heart failure, 351-353
 - ICD trials in, 354-355
 - in hypertrophic cardiomyopathy, 353
 - in vasovagal syncope, 353-354
- Cardiogenic shock, 391-412
 - causes of, 392-393, 405-407
 - clinical assessment of, 397-399
 - defined, 391
 - epidemiology of, 392-393
 - management of, coronary artery bypass surgery in, 404-405
 - initial, 399-401
 - intra-aortic balloon pumping in, 402
 - primary coronary angioplasty in, 402-403
 - revascularization in, 402-405
 - thrombolytic therapy in, 401
 - myocardial and cellular pathology related to, 395-396
 - pathogenesis of, 393-399
 - reversible myocardial dysfunction related to, 396-397
 - systemic effects of, 393-395
- Cardiomyopathy, amyloid, heart failure caused by, 703-705
 - cancer treatment agents and, 489-490
 - hypertrophic, cardiac pacing in, 353
- Cardiopulmonary bypass, hypomagnesemia and, 182-183
- Cardiopulmonary resuscitation (CPR), for critical care cancer patients, 791-803
- Cardiovascular disease, magnesium in, significance of, 180-182
- Cardiovascular function, in obese patients, 191-192
- Cardiovascular system, magnesium effects on, 175-186. See also *Magnesium.*
- Catecholamine excess states, hypertensive emergencies caused by, diagnosis and management of, 445-446
- Catheter(s), intrapleural, in regional analgesia, 960-961
 - pulmonary artery. See also *Pulmonary artery catheter.*
 - controversies related to, 271-291
 - uses of, 271-291
- Catheter ablation, advances in, 342-349
 - of atrial fibrillation, 344-346
 - of atrial flutter, 342-344
- Cell-mediated immunity, defects in, in critically ill cancer patients, 539-542
- Cellular respiration, direct assessment of, 225-227
- Cerebral edema, diabetic ketoacidosis and, 91-92
 - hyperglycemic hyperosmolar syndrome treatment and, treatment of, 102
- Cerebral ischemia, acute, magnesium for, 168-169
- Cerebral salt wasting, anatomic correlations in, 131-132
 - defined, 126
 - evidence in favor of, 126-128
 - mechanisms of, 128-132

- Cerebral salt wasting (*Continued*)
 natriuretic factors in, 128-130
 neural effects of, 131
- Cerebral salt wasting syndrome, **125-138**
 differential diagnosis of, 132-133
 historical background of, 125-126
 management of, 133-134
 ouabain-like compound in, 130-131
- Chemotherapy, cardiac toxicity caused by, 700-703
 lung injury caused by, 628-629
 nutritional support in patients with, 758-759
- Chest radiography, in evaluation of
 pulmonary infiltrates in critically ill
 cancer patients, 657-667
- Circulatory shock, **697-719**
 acute adrenal insufficiency and, 715-716
 carcinoid syndrome and, 714-715
 cardiac masses and, 705-708
 endocrine-mediated circulatory compro-
 mise and, 712-716
 heart failure and, 700-705. See also *Heart failure*.
 infectious endocarditis and, 708
 mechanical and valvular problems re-
 lated to, 705-709
 nonbacterial thrombotic endocarditis
 and, 709
 pericardial tamponade and, 709-712
 pheochromocytoma and, 712-74
 septic shock, 698-700
- Cisplatin nephrotoxicity, malignancy-
 related, 577-578
- Clonidine, administration of, 955-956
 in ICU, 916-917
- Clopidogrel, in acute cardiac care, 368-371
- Coagulation factor deficiencies, in critically
 ill cancer patients, 607-608
- Coagulation system, and cancer,
 relationship between, 601-602
- Codeine, in ICU, 912
- Collagen vascular disease, pulmonary
 hypertension related to, 459
- Colorectal cancer, nutritional support in
 patients with, 756
- COMFORT Scale, in agitation assessment,
 972
- Computed tomography (CT), in evaluation
 of pulmonary infiltrates in critically ill
 cancer patients, 664-665
- Congestive heart failure (CHF),
 biventricular pacing for, 351-353
 cancer treatment agents and, 489-490
 hypomagnesia and, 181-182
- Constipation, cancer treatment agents and,
 498
 in critical care cancer patients, 776-778
- Contrast agents, iodinated, as factor in
 thyroid function, 50
- radiographic, acute renal failure caused
 by, 580-581
- Coronary angioplasty, for cardiogenic
 shock, 402-403
- Coronary artery bypass surgery, for
 cardiogenic shock, 404-405
- Coronary heart disease, hypomagnesia
 and, 183
- CPR. See *Cardiopulmonary resuscitation (CPR)*.
- CT. See *Computed tomography (CT)*.
- Cyclophosphamide, heart failure caused
 by, 702-703
- Cyclosporin A, malignancy associated
 with, 586-587
- Cystitis, hemorrhagic, cancer treatment
 agents and, 494-495
- Cytokine(s), for sepsis in critically ill
 cancer patients, 554
- Cytopathic hypoxia, **219-237**
- Decompensated diabetes. See also *Diabetic ketoacidosis; Hyperglycemic hyperosmolar syndrome*.
 costs related to, 75-76
 management of, **75-106**
 prevalence of, 75
- Defibrillation, advances in, 349-355
- Defibrillator(s), atrial, 350-351
- Delirium, assessment of, 981-982
 defined, 822, 1017
 in ICU, 822-826
- Delta receptors, 903
- Dexmedetomidine, in ICU, 868-869
- Diabetes, decompensated. See
Decompensated diabetes.
- Diabetic ketoacidosis, **75-106**
 clinical presentation of, 81
 complications of, treatment of, 91-92
 laboratory findings in, 81-82
 management of, bicarbonate in, 90
 calcium in, 91
 fluid therapy in, 84-85
 indications for, 77-78
 insulin in, 85-90
 magnesium in, 91
 phosphate in, 91
 potassium in, 90
 pathogenesis of, 76-77
 pathophysiology of, 78-81
 predisposing and precipitating factors
 for, 78
- Dialysis, for critical care cancer patients,
791-803
- Diarrhea, cancer treatment agents and, 498
 in critical care cancer patients, 778-782
- Diazepam, in ICU, recommendations for,
 856

- pharmacokinetics and pharmacodynamics of, 847
- DIC. See *Disseminated intravascular coagulation (DIC)*.
- Dietary fats, 203
- Dietary fatty acids, 202-203
- Diffuse alveolar hemorrhage, in critically ill cancer patients, 632-633
- in hematopoietic stem cell patients, 679-680
- Diphenylhydantoin, as factor in thyroid function, 51
- Disseminated intravascular coagulation (DIC), cancer treatment agents and, 495-496
- hyperglycemic hyperosmolar syndrome treatment and, treatment of, 101
- in critically ill cancer patients, 613-615
- Dofetilide, for cardiac arrhythmias, 355-356
- Dopamine, as factor in thyroid function, 49
- Doppler echocardiography, 259-262. See also *Echocardiography, Doppler*.
- Drug(s), as factor in thyroid function, 49-51
- hyponatremia caused by, 17-18
- lung injury caused by, pulmonary infiltrates in critically ill cancer patients caused by, 650-653
- Echocardiography, contrast, in left ventricle assessment, 255-256
- Doppler, 259-262
- in cardiac output determination, 260
- in left ventricular filling pressure determination, 261-262
- in pulmonary artery pressure determination, 260-261
- in right artery pressure determination, 261
- in critical care setting, 253-270
- in left ventricle assessment, 253-258
- contrast echocardiography, 255-256
- harmonic imaging, 254-255
- left ventricular diastolic function, 256-258
- left ventricular systolic function, 253-254
- in pericardial disease, 264-265
- in right ventricle assessment, 258-259
- in valvular heart disease evaluation, 262-264
- in ventricular interaction, 258-259
- intracardiac, 340-342
- transesophageal, 265
- Eclampsia, magnesium for, 164-165
- Economic issues, in critical care cancer patients, 809-810
- Edema, cerebral, diabetic ketoacidosis and, 91-92
- hyperglycemic hyperosmolar syndrome treatment and, treatment of, 102
- in cancer patients, 503-505
- pulmonary, pulmonary infiltrates in critically ill cancer patients caused by, 654-657
- EEG. See *Electroencephalography (EEG)*.
- Electrocardiography (ECG), extended monitoring with, 338
- Electroencephalography (EEG) power spectral parameters, in agitation assessment, 973
- Electrolyte therapy, for hyperglycemic hyperosmolar syndrome, 100-101
- Embolism(i), tumor, in critically ill cancer patients, 632
- Endocarditis, infectious, circulatory shock and, 708
- nonbacterial, in critically ill cancer patients, 613
- thrombotic, nonbacterial, circulatory shock and, 709
- Endocrine system, pathophysiology of, clinical and therapeutic implications of, 4-6
- Endocrine-mediated circulatory compromise, circulatory shock and, 712-716
- End-of-life decisions, in cancer care, 805-811
- Endotracheal intubation, neuromuscular-blocking drugs for, 926
- Engraftment syndrome, in hematopoietic stem cell patients, 681
- Enteral nutrition, versus parenteral nutrition, in critical care cancer patients, 751-752
- Enteritis, radiation, nutritional support in patients with, 759
- Enterocolitis, necrotizing, in critically ill cancer patients, treatment of, 556-557
- neutropenic, cancer treatment agents and, 498-499
- Environmental factors, as factor in thyroid function, 49-51
- Eptifibatide, in acute cardiac care, 372
- Esophageal cancer, nutritional support in patients with, 754-755
- Ethical issues, in critical care cancer patients, 806-807
- Etomidate, in ICU, 865
- Evoked responses, in agitation assessment, 978

- Factor VIII autoantibodies, in critically ill cancer patients, 607
- Fasting, thyroid alterations and, 51-53
- Fat(s), dietary, 203
- Fatty acids, dietary, 202-203
- Femoral nerve blocks, 961-962
- Fentanyl, in ICU, 912-913
- Flexible bronchoscopy, in evaluation of pulmonary infiltrates in critically ill cancer patients, 665-666
- Fibrinolytic therapy, with antiplatelet therapy, for acute myocardial infarction, 420-421
- Fibrosis, cancer treatment agents and, 493-494
- Fick equation, 284
- Fistula(s), nutritional support in patients with, 757
- Fluid and electrolyte abnormalities, in cancer patients, 503-529
 - edema, 503-505
 - hypercalcemia, 512-514
 - hyperkalemia, 510-511
 - hypermagnesemia, 515-516
 - hyponatremia, 507-508
 - hyperphosphatemia, 517-518
 - hypocalcemia, 511-512
 - hypokalemia, 508-510
 - hypomagnesemia, 514-515
 - hyponatremia, 505-507
 - hypophosphatemia, 516-517
 - metabolic acidosis, 520-522
 - metabolic alkalosis, 519-520
 - tumor lysis syndrome, 518-519
- Fluid overload, diabetic ketoacidosis and, 92
- hyponatremia caused by, 16-17
- Fluid therapy, for diabetic ketoacidosis, 84-85
- for hyperglycemic hyperosmolar syndrome, 99-100
- Flumazenil, pharmacokinetics and pharmacodynamics of, 850
- 5-Fluorouracil, heart failure caused by, 703
- Free wall rupture, cardiogenic shock caused by, 406-407
- Fungal infections, in critically ill cancer patients, 536-538, 542, 549
- in hematopoietic stem cell patients, 676-678
- Gastric cancer, nutritional support in patients with, 755-756
- Gastric dilatation, acute, diabetic ketoacidosis and, 92
- Gastrointestinal hemorrhage, in hematopoietic stem cell patients, 684
- Gastrointestinal system, in hematopoietic stem cell patients, complications associated with, 683-685
- Glomerular diseases, malignancy-related, 574-575
- Glucocorticoid(s), as factor in thyroid function, 49-50
- Glucose, production of, counterregulatory hormones and, 109-111
- Glucose with the addition of insulin and potassium (GIK), clinical experience with, 470-471
- ECLA pilot trial of, 471-475
- mechanism of action of, 470
- Glycoprotein IIb/IIIa inhibitors, for acute myocardial infarction, 420
- in acute coronary syndromes, 425-430
- in percutaneous coronary intervention, 310-311
- Glycoprotein IIb/IIIa receptor antagonists, in acute cardiac care, 371-375
- Granulocytopenia, in critically ill cancer patients, 532-539
- bacterial infections associated with, 534-536
- breakthrough fungemia in, 538-539
- fungal infections associated with, 536-538
- Haloperidol, in ICU, 868
- Harris Scale, in agitation assessment, 969-970
- Head and neck cancer, nutritional support in patients with, 754
- Head injuries, hyperglycemia effects of, 117
- Heart, in hematopoietic stem cell patients, complications associated with, 686-687
- Heart diseases, nutritional support in patients with, 759-760
- Heart failure, 700-705
- acute. *See Acute heart failure.*
- amyloid cardiomyopathy and, 703-705
- chemotherapy-related cardiac toxicity and, 700-703
- congestive, cancer treatment agents and, 489-490
- Heart rate, variability of, in agitation assessment, 972-973
- Heart transplantation, for acute heart failure, 328-329
- Heart-lung transplantation, for pulmonary hypertension, 464
- Hematologic complications, in hematopoietic stem cell patients, 687
- Hematopoietic stem cell patients, abdominal pain in, 684-685

- cardiac complications in, 686-687
- critical care complications in, prognosis of, 688-689
- critical care of, 671-695
- diffuse alveolar hemorrhage in, 679-680
- engraftment syndrome in, 681
- gastrointestinal complications in, 683-685
- gastrointestinal hemorrhage in, 684
- hematologic complications in, 687
- hepatic insufficiency in, 683-684
- idiopathic pulmonary syndrome in, 680-681
- infectious complications in, 675-679
- neurologic complications in, 685-686
- nutritional support of, 675
- pleural disease in, 681
- pre-hematopoietic stem cell assessment in, 673-675
- protective isolation strategies in, 676
- pulmonary complications in, 679-683
- pulmonary vascular disease in, 681
- renal complications in, 687-688
- upper airway complications in, 681-683
- viral complications in, 678-679
- Hematuria, hypertensive emergencies with, diagnosis and management of, 445
- Hemolytic uremic syndrome, in critically ill cancer patients, 612-613
- Hemophilia, acquired, in critically ill cancer patients, 607
- Hemorrhage, alveolar, diffuse, in critically ill cancer patients, 632-633
 - cancer treatment agents and, 494-497
 - diffuse alveolar, in hematopoietic stem cell patients, 679-680
 - gastrointestinal, in hematopoietic stem cell patients, 684
- Hemostasis, normal, physiology of, 600-606
- Heparin(s), in percutaneous coronary intervention, 311-312
 - low-molecular-weight, in acute cardiac care, 382-383
 - unfractionated, in acute cardiac care, 380-382
- Heparin-induced thrombocytopenia, in critically ill cancer patients, 611-612
- Hepatic insufficiency, in hematopoietic stem cell patients, 683-684
- Hepatorenal syndrome, malignancy-related, 573-574
- Hepatosplenic candidiasis, in critically ill cancer patients, treatment of, 556
- Hepatotoxicity, cancer treatment agents and, 497-498
- Hirudin, in percutaneous coronary intervention, 312
- HIV infection. *See Human immunodeficiency virus (HIV) infection.*
- Hormonal alterations, stress-induced, 1-10
- Hormonal therapies, clinical and therapeutic implications of, 4-6
- Human immunodeficiency virus (HIV) infection, pulmonary hypertension related to, 458
- Humoral immune deficiency, in critically ill cancer patients, 543-545
- Hydromorphone, in ICU, 907, 912
- Hyperalgesia, sensitization and, 948-949
- Hypercalcemia, in cancer patients, 512-514
 - PTH and, 144
- Hyperglycemia, effect(s) of, 115-118
 - effect on protein catabolism, 117-118
 - head injury effects on, 117
 - infectious complications of, 115-116
 - management of, 118-121
 - prevention of, 118-119
 - stress-induced, 107-124
 - described, 107
 - pathophysiology of, 109-115
 - prevalence of, 108
 - stroke effects on, 116-117
- Hyperglycemic hyperosmolar syndrome, 75-106
 - clinical presentation of, 95-96
 - complications of, treatment of, 101-102
 - laboratory findings in, 96-97
 - management of, electrolyte therapy in, 100-101
 - fluid therapy in, 99-100
 - indications for, 77-78
 - insulin in, 100
 - pathogenesis of, 76-77, 94-95
 - predisposing and precipitating factors for, 93-94
 - treatment of, 97-101
- Hyperkalemia, in cancer patients, 510-511
- Hypermagnesemia, in cancer patients, 515-516
- Hypernatremia, in cancer patients, 507-508
- Hyperphosphatemia, in cancer patients, 517-518
- Hypersensitivity reactions, to cancer treatment agents, 483-486. *See also specific agent and Cancer, treatment for, acute life-threatening toxicity of.*
- Hypertension, portal, pulmonary hypertension and, 458-459
- pulmonary. *See Pulmonary hypertension.*
- Hypertensive emergencies, 435-451
 - cardiac emergencies, diagnosis and management of, 441-444
 - catecholamine excess states and, diagnosis and management of, 445-446
 - causes of, 435-439
 - defined, 435
 - diagnosis of, 440-446
 - during pregnancy, diagnosis and management of, 436

- Hypertensive emergencies (*Continued*)
 evaluation for, initial, 439-440
 management of, 440-446
 drug therapy in, 437-438
 neurologic emergencies, diagnosis and management of, 440-441
 pathophysiology of, 435-439
 risk factors for, 435-439
 terminology related to, 439
 vascular emergencies, diagnosis and management of, 444
 with hematuria, diagnosis and management of, 445
 with renal impairment, diagnosis and management of, 445
- Hypertensive urgencies, management of, drug therapy in, 438-439
- Hyperthyroidism, management of, in ICU, 59-74
- Hypertrophic cardiomyopathy, cardiac pacing in, 353
- Hypnosis, defined, 1017
- Hypocalcemia, during critical illness, advantages versus disadvantages of, 148-149
 in cancer patients, 511-512
 in ICU, causes of, 144-147
 clinical significance of, 143-144
- Hypocalcemic syndromes, 139-153
- Hypoglycemia, diabetic ketoacidosis and, 92
- Hypokalemia, in cancer patients, 508-510
- Hypomagnesemia, in cancer patients, 514-515
- Hypomagnesemic disorders, 155-173. See also *Magnesium*.
 causes of, 157-159
 clinical effects of, 161-162
- Hypomagnesia, in cardiovascular disease, significance of, 180-182
- Hyponatremia, causes of, 15-18
 clinical assessment of, 12-14
 depletional versus dilutional, 12-14
 drugs and, 17-18
 epidemiology of, 14
 evaluation of, 32-35
 fluid overload and, 16-17
 in cancer patients, 505-507
 management of, 19-21
 SIADH and, 16
 symptoms of, 14
- Hypophosphatemia, in cancer patients, 516-517
- Hypotension, cancer treatment agents and, 488
- Hypothalamic-pituitary axis, regulation of, 26
- Hypothalamic-pituitary-adrenal insufficiency, 25-44
 causes of, 26-29
 clinical manifestations of, 30-32
 incidence of, 29
 treatment of, 35-37
- Hypothyroidism, management of, in ICU, 59-74
- Hypoxemia, 455-457
- Hypoxia, cytopathic, 219-237
 in sepsis, mechanisms of, 227-231
- Ibutilide, for cardiac arrhythmias, 355-356
- ICU. See *Intensive care unit (ICU)*.
- Idiopathic pulmonary syndrome, in hematopoietic stem cell patients, 680-681
- Ifosfamide nephrotoxicity, malignancy-related, 578
- Incisional atrial tachycardia, ablation of, 346-348
- Infection(s). See also specific types.
 in critically ill cancer patients, 531-569, 626-628. See also *Cancer patients, critically ill, infectious morbidity in*.
 in hematopoietic stem cell patients, 675-679
 pulmonary infiltrates in critically ill cancer patients caused by, 649-650
 thyroid alterations and, 53
- Infectious endocarditis, circulatory shock and, 708
- Inflammation, endocrinology of, 3-4
 systemic, 201-217
- Insulin, for diabetic ketoacidosis, 85-90
 for hyperglycemic hyperosmolar syndrome, 100
- Intensive care unit (ICU), acute respiratory failure management in, 636-637
 analgesic agents in, 899-923. See also *Analgesic agents, in ICU*.
 anxiety in, 821-842
 benzodiazepines in, 843-862. See also *Benzodiazepine(s), in ICU*.
 hypomagnesia and, 183
 neuromuscular-blocking drugs in, 925-942. See also *Neuromuscular-blocking drugs, in ICU*.
 nonbenzodiazepine sedatives in, 863-880. See also specific agent, e.g., *Propofol, in ICU*.
 regional analgesia in, 943-966. See also *Regional analgesia, in ICU*.
 sedation in, new agents in, 881-897
 telecardiology in, 293-301
 thyroid function in, 43-58
- Interstitial lung disease, 457
 cancer treatment agents and, 492-493
- Intra-aortic balloon pumping, in cardiogenic shock, 402

- Intracoronary radiation therapy, in percutaneous coronary intervention, 309
- Intracoronary stents, for acute myocardial infarction, 420
- Intracardiac echocardiography, 340-342
- Intracranial pressure, increases in, control of, neuromuscular-blocking drugs for, 926-927
- Intrapleural catheters, in regional analgesia, 960-961
- Iodinated contrast agents, as factor in thyroid function, 50
- Iodine, as factor in thyroid function, 50
- Ischemia, cancer treatment agents and, 488
- Kappa receptors, 902
- Ketamine, administration of, 956
in ICU, 866
- Ketorolac, in ICU, 916
- Lanotepase (n-PA), for acute myocardial infarction, 417
in acute cardiac care, 387
- Left ventricle, assessment of, echocardiography in, 253-258. See also *Echocardiography, in left ventricle assessment.*
- Left ventricular filling pressure, determination of, Doppler echocardiography in, 261-262
- Legal issues, in critical care cancer patients, 807-809
- Leukostasis, pulmonary, in critically ill cancer patients, 633
- Lipid(s), classification of, 201-202
modulation of, 201-217
adverse effects of, 212
therapeutic implications of, 208-212
physiologic actions of, 203-207
- Lipid-gene interactions, 207-208
- Lipid-immune interactions, 207
- Listeriosis, in critically ill cancer patients, 542
- Liver failure, nutritional support in patients with, 760-761
- Liver resection, nutritional support in patients with, 756-757
- Lorazepam, in ICU, 891-892
recommendations for, 856-857
pharmacokinetics and pharmacodynamics of, 847-849
- Low-molecular-weight heparins (LMWHs), for acute non-ST-segment elevation myocardial infarction, 424-425
in acute cardiac care, 382-383
- Lung biopsy, surgical, in evaluation of pulmonary infiltrates in critically ill cancer patients, 666-667
- Lung disease(s), interstitial, cancer treatment agents and, 492-493
nutritional support in patients with, 760
- Lung function, in obese patients, 189-191
- Lung injury, acute, cancer treatment agents and, 490-492
chemotherapy-induced, 628-629
drug-induced, pulmonary infiltrates in critically ill cancer patients caused by, 650-653
radiation-induced, 639-640
pulmonary infiltrates in critically ill cancer patients caused by, 650
transfusion-related, in critically ill cancer patients, 633-634
- Lung toxicity, treatment-related, pulmonary infiltrates in critically ill cancer patients caused by, 650
- Lymphangitic carcinomatosis, in critically ill cancer patients, 633
- Magnesium, and myocardial function, 175-180
physiologic significance of, 179-180
potential significance of, 180
cardiovascular actions of, 175-186
clinical uses of, 162-169
deficiency of. See *Hypomagnesemic disorders; Hypomagnesia.*
extracellular, and myocardial function, 175-176
for diabetic ketoacidosis, 91
in acute cerebral ischemia, 168-169
in acute myocardial infarction, 166-168
in asthma, 162-164
in cardiac arrhythmias, 165-166
in cardiovascular disease, significance of, 180-182
in eclampsia, 164-165
in preeclampsia, 164-165
intracellular, and myocardial function, 176-179
measurement of, 159-161
metabolism of, 155-157
physiology of, 155-157
replacement strategies for, 169-170
- Malignancy, thyroid alterations and, 53-55
- Malignant pericardial effusions, in critical care cancer patients, 728-729
- Malignant pleural effusions, in critical care cancer patients, 726-728
- Malnutrition, in critical care cancer patients, significance of, 743-744

- Mechanical ventilation, for critical care
 cancer patients, 791-803
 neuromuscular-blocking drugs for, 926
 outcomes of patients on, protocols in improvement of, 989-1001
 in ICU, 995-997
 limitations of, 997
 reasons for, 990-991
 weaning from, protocols for, 991-994
- Medicolegal issues, in critical care cancer patients, 807-809
- Meperidine, in ICU, 912
- Metabolic acidosis, in cancer patients, 520-522
- Metabolic alkalosis, in cancer patients, 519-520
- Metabolism, in critical care cancer patients, changes in, 744-745
- Methotrexate nephrotoxicity, malignancy-related, 588-589
- Microangiopathy, cancer treatment agents and, 495-497
- Midazolam, in ICU, recommendations for, 857-858
 pharmacokinetics and pharmacodynamics of, 849-850
- Mitochondrial respiration, direct assessment of, 225-227
- Mitoxantrone, heart failure caused by, 701
- Mitral regurgitation, 262-263
 acute, cardiogenic shock caused by, 406
- Mitral stenosis, 264
- Morphine, in ICU, 907
- Motor Activity Assessment Scale, in agitation assessment, 969
- Mu receptors, 901-902
- Mucositis, oral, in critical care cancer patients, 773-776
- Multiple myeloma, renal disease in, 575-577
- Multiple organ dysfunction syndrome (MODS), mitochondrial dysfunction as mechanism of, 219-237
- Multivessel disease, percutaneous coronary intervention for, 314-315
- Muscle tone, reduction of, neuromuscular-blocking drugs for, 927
- Mycobacterial infections, in critically ill cancer patients, 541
- Myeloma, multiple, renal disease in, 575-577
- Myocardial function, magnesium effects on, 175-180
- Myocardial infarction, acute. *See Acute myocardial infarction.*
 magnesium for, 166-168
 acute non-ST-segment elevation, and unstable angina, 423-430
 acute ST-segment elevation, 413-423
 percutaneous coronary intervention for, 312-313
- Myocarditis, cancer treatment agents and, 488-489
- Myxedema coma, 69-73
 clinical features of, 69-70
 laboratory findings in, 70-71
 precipitating factors in, 69
 treatment of, 71-73
- N-acetylcysteine, in clinical trials, 242-244
- Natriuretic factors, in cerebral salt wasting, 128-130
- Nausea and vomiting, in critical care cancer patients, 782-785
- Neck cancer, nutritional support in patients with, 754
- Necrotizing enterocolitis, in critically ill cancer patients, treatment of, 556-557
- Nerve blocks, femoral, 961-962
 sciatic, 961-962
- Neural effects, of cerebral salt wasting, 131
- Neurologic system, in hematopoietic stem cell patients, complications associated with, 685-686
- Neuromuscular-blocking drugs, in ICU, 925-942
 dosing of, 937-938
 for control of increases in intracranial pressure, 926-927
 for endotracheal intubation, 926
 for mechanical ventilation, 926
 for pain, 835-836
 for reduction of muscle tone, 927
 indications for, 926-927
 issues related to use of, 934-935
 monitoring of, 938-939
 prolonged use of, complications of, 927-929
 recommendations related to, 934-939
 selection of, 935-937
 weakness after, 929-934
- Neutropenia, in critical care cancer patients, 772
- Neutropenic enterocolitis, cancer treatment agents and, 498-499
- Nitric oxide, inhibition of mitochondrial respiration by, and cytopathic hypoxia in sepsis, 228
- Nocardiosis, in critically ill cancer patients, 542
- Nociception, 944-946
 reflex alterations associated with, 946
 spinal processing of, 946
- Nonbacterial endocarditis, in critically ill cancer patients, 613
- Nonbenzodiazepine sedatives, in ICU, 863-880. *See also* specific agent.
- Noncontact endocardial activation mapping, 340

- Nonfluoroscopic electroanatomical cardiac mapping, 338-339
- Nursing considerations, in critical care cancer patients, 769-789. See also *Cancer patients, critical care of, nursing considerations in.*
- Nutrition, in obese patients, 193-195
- Nutritional assessment, in critical care cancer patients, 745-748
- Nutritional support, in critical care cancer patients, 743-767
- bone marrow transplantation and, 762
 - cardiac diseases and, 759-760
 - chemotherapy and, 758-759
 - colorectal cancer, 756
 - enteral versus parenteral nutrition, 751-752
 - esophageal cancer, 754-755
 - fistula, 757
 - gastric cancer, 755-756
 - head and neck cancer, 754
 - liver failure, 760-761
 - liver resection, 756-757
 - lung diseases and, 760
 - pancreatic cancer, 756
 - radiation enteritis, 759
 - radiation therapy and, 758-759
 - renal failure, 761-762
 - short-bowel syndrome, 757-758
 - surgical complications of, 757-758
 - therapeutic and organ-specific considerations, 758-763
 - undergoing surgery, 752-757
- of hematopoietic stem cell patients, 675
- Obesity, cardiovascular function and, 191-192
- causes of, 188-189
 - defined, 187
 - in critically ill patients, 187-200
 - and drug dosing, 192-193
 - nutritional requirements, 193-195
 - radiologic procedures, 195-196
 - vascular access, 195
 - lung function and, 189-191
 - prevalence of, 187
- Observer's Assessment of Alertness/Sedation Scale, in agitation assessment, 971-972
- Opioid agonists, in ICU, 906-917
- acetaminophen, 916
 - adverse effects of, 913-915
 - clonidine, 916-917
 - codeine, 912
 - delivery routes for, 917
 - devices used with, 917
 - fentanyl, 912-913
 - hydromorphone, 907, 912
 - ketorolac, 916
 - meperidine, 912
 - mixed agonists, 915
 - morphine, 907
 - NSAIDs, 916
 - recommendations for, 915-916
 - synthetic opioids, 912-913
- Opportunistic pulmonary infections, localized, in critical care cancer patients, 730-732
- Oral mucositis, in critical care cancer patients, 773-776
- Ouabain-like compound, in cerebral salt wasting, 130-131
- Overweight, defined, 187
- Oxidant(s), 239-247
- in cell signaling, 241
- Oxidant-mediated injury, 239-240
- Oxidative phosphorylation, uncoupling of, and cytopathic hypoxia in sepsis, 229-230
- Pain, abdominal, in hematopoietic stem cell patients, 684-685
- defined, 1017
 - in ICU, assessment of, 917-919
 - management of, principles of, 1021
 - neuromuscular blockade for, 1023-1024
 - physiologic and psychologic consequences of, 1022
 - prevalence of, 832-833
 - sedation for, 826-838. See also *Anxiety, in ICU, sedation for.*
 - treatment of, 836-838
 - mechanisms of, 900
 - neurobiology of, 946
 - transmission of, neurochemistry of, 946-948
- Pancreatic cancer, nutritional support in patients with, 756
- Paraneoplastic syndromes, in critically ill cancer patients, 635-636
- Parathyroid hormone (PTH), and hypercalcemia, 144
- secretion of, in calcium metabolism, 141-142
 - inflammatory response and, 149
- Parenteral nutrition, versus enteral nutrition, in critical care cancer patients, 751-752
- Percutaneous coronary intervention, atherectomy devices in, 306-309
- developments in, 303-320
 - devices in, 304-309

- Percutaneous coronary intervention
(Continued)
for acute coronary syndromes, 313-314
for multivessel disease, 314-315
for myocardial infarction, 312-313
indications for, 312-315
intracoronary radiation therapy in, 309
patient selection for, 312-315
pharmacologic therapies in, 310-312
antithrombin agents, 311-312
heparin, 311-312
hirudin, 312
IIb/IIIa inhibitors, 310-311
trastuzumab, 312
stents in, 304-306
Pericardial disease, echocardiography in,
264-265
Pericardial effusions, malignant, in critical
care cancer patients, 728-729
Pericardial tamponade, circulatory shock
and, 709-712
Pericarditis, cancer treatment agents and,
488-489
Peripheral insulin resistance,
counterregulatory hormones and,
112-114
Peroxydinitrite, inhibition of mitochondrial
respiration by, and cytopathic hypoxia
in sepsis, 229
Pheochromocytoma, circulatory shock and,
712-714
Phosphate, for diabetic ketoacidosis, 91
Phosphorylation, oxidative, uncoupling of,
and cytopathic hypoxia in sepsis,
229-230
Platelet function, normal, 365-367
physiology of, 365-367
Pleural disease, in hematopoietic stem cell
patients, 681
Pleural effusions, malignant, in critical
care cancer patients, 726-728
Pneumonia, in critically ill cancer patients,
545-551
assisted ventilation and, 548-549
bacterial infections related to, 545
diagnosis of, 550-551
fungal infections related to, 549
respiratory viruses related to, 550
Pneumonitis, radiation, cancer treatment
agents and, 493-494
Poly-(ADP-ribose)-polymerase, activation
of, and cytopathic hypoxia in sepsis,
230-231
Portal hypertension, pulmonary
hypertension and, 458-459
Postrenal failure, malignancy-related,
587-588
Potassium, for diabetic ketoacidosis, 90
Preeclampsia, magnesium for, 164-165
Pregnancy, hypertensive emergencies
during, diagnosis and management of,
426
Pre-hematopoietic stem cell assessment, in
hematopoietic stem cell patients,
673-675
Prerenal failure, 571-573
Propofol, in ICU, **863-880**
beneficial effects of, 870-871
cost of, 876
miscellaneous issues with, 874-875
monitoring depth of sedation of,
875-876
pharmacokinetics of, 870
side effects of, 871-872
Prostacyclin, for pulmonary hypertension,
462-463
Protein(s), stress, structure and function of,
4
Protein catabolism, hyperglycemia effects
on, 117-118
PTH. See *Parathyroid hormone (PTH)*.
Pulmonary artery catheter, cardiac output
effects of, 282-284
complications of, 275-277
data analysis related to, 277-284
Fick equation and, 284
in diagnosis, 272-274
in management and monitoring, 274-275
indications for, 272-275
monitoring system for, evaluation of,
287-288
new catheters, 288-289
pulmonary artery pressure effects of,
278-279
pulmonary artery wedge pressure ef-
fects of, 279-282
right atrial pressure effects of, 377-378
right ventricular pressure effects of, 378
thermodilution effects of, 283
uses of, **271-291**
Pulmonary artery pressure, determination
of, Doppler echocardiography in,
260-261
pulmonary artery catheter effects on,
278-279
Pulmonary artery wedge pressure,
pulmonary artery catheter effects on,
279-282
Pulmonary edema, pulmonary infiltrates
in critically ill cancer patients caused
by, 654-657
Pulmonary hypertension, anorexigens and,
465
collagen vascular disease related to, 459
defined, 453
described, 453-455
HIV infection and, 458
portal hypertension and, 458-459
primary, 390
severe, **453-467**
sleep disorder breathing related to, 460
systemic-to-pulmonary shunts related to,
459-460

- thromboembolic disease and, 457-458
 treatment of, 461-464
 anticoagulants in, 461-462
 atrial septostomy in, 463-464
 calcium channel blockers in, 462
 heart-lung transplantation in, 464
 investigational agents in, 464-465
 prostacyclin in, 462-463
 vasodilator testing in, 461
- Pulmonary leukostasis, in critically ill cancer patients, 633
- Pulmonary thromboembolism, in critically ill cancer patients, 630-632
- Pulmonary vascular disease, in hematopoietic stem cell patients, 681
- Pulmonary veno-occlusive disease, cancer treatment agents and, 494
- Pulmonary venous hypertension. See *Pulmonary hypertension.*
- Purpura, thrombotic thrombocytopenic, in critically ill cancer patients, 612-613
- Pyruvate dehydrogenase, inactivation of, and cytopathic hypoxia in sepsis, 227-228
- Radiation, lung injury caused by, 639-640
 pulmonary infiltrates in critically ill cancer patients caused by, 650
- Radiation enteritis, nutritional support in patients with, 759
- Radiation pneumonitis, cancer treatment agents and, 493-494
- Radiation therapy, nutritional support in patients with, 758-759
- Radiographic contrast agents, acute renal failure caused by, 580-581
- Radiography, chest, in evaluation of pulmonary infiltrates in critically ill cancer patients, 657-667
- Ramsay Scale, in agitation assessment, 969
- Regional analgesia, in ICU, **943-966**
 administration of, 951-955
 and nociception, 944-946
 brachial plexus blockade in, 961
 clinical features of, 958-959
 epidural, 953-955, 957-958, 959
 femoral nerve blocks in, 961-962
 indications for, 956-957
 intrapleural catheters in, 960-961
 intraspinal, 953-955
 intrathecal, 959
 neuroaxial, 957
 peripheral, 955, 960
 sciatic nerve blocks in, 961-962
 successful, 944
 toxicity of, 951-953
- Regurgitation, aortic, 263
 mitral, 262-263
- acute, cardiogenic shock caused by, 406
- tricuspid, 262-263
- Remifentanyl, in ICU, 890-891
- Renal diseases, malignancy-related, **571-598**
 aminoglycoside-related acute tubular necrosis, 578-579
 amphotericin B nephrotoxicity, 579-580
 cisplatin nephrotoxicity, 577-578
 cyclosporin A and, 586-587
 glomerular diseases, 574-575
 hepatorenal syndrome, 573-574
 ifosfamide nephrotoxicity, 578
 intrinsic acute renal failure, 581-583
 methotrexate nephrotoxicity, 588-589
 multiple myeloma, 575-577
 postrenal failure, 587-588
 prerenal failure, 571-573
 radiographic contrast-induced acute renal failure, 580-581
 renal replacement therapy and, 589-590
- Renal failure, acute. See *Acute renal failure.*
- nutritional support in patients with, 761-762
- Renal impairment, hypertensive emergencies with, diagnosis and management of, 445
- Renal replacement therapy, malignancy-related, 589-590
- Renal system, in hematopoietic stem cell patients, complications associated with, 687-688
- Respiration, cellular, direct assessment of, 225-227
 mitochondrial, direct assessment of, 225-227
- Respiratory system, disorders of, 455-457
- Respiratory viruses, in critically ill cancer patients, 550
- Resuscitation, cardiopulmonary, for critical care cancer patients, **791-803**
- Reteplase (r-PA), for acute myocardial infarction, 416-417
 in acute cardiac care, 387
- Rhabdomyolysis, hyperglycemic hyperosmolar syndrome treatment and, treatment of, 101-102
- Richmond Agitation Sedation Scale, in agitation assessment, 972
- Right artery pressure, determination of, Doppler echocardiography in, 261
- Right atrial pressure, pulmonary artery catheter effects on, 277-278
- Right ventricular infarction, cardiogenic shock caused by, 405-406
- Right ventricular pressure, pulmonary artery catheter effects on, 278

- Riker Sedation-Agitation Scale, in agitation assessment, 969
- Sciatic nerve blocks, 961-962
- Sedation. See also *Analgesia*.
and analgesia, in ICU, balancing of, 1015-1027
cost reduction issues in, guidelines for, 1020-1021
improving care related to, guidelines for, 1020-1021
management of, principles of, 1021
monitoring outcomes of, 1018-1019
pain management issues, 1021
patient comfort-related issues, 1017-1018
patient management guidelines, 1021
treatment algorithm for, 1022-1024
defined, 1017
for agitation, in ICU, 826-838. See also *Anxiety*, in ICU, sedation for.
pharmacoeconomics of, analysis of, 1003-1013
literature review of, 1005-1006
models of, 1006-1012
overview of, 1003-1005
recommendations for, 1012
- Sedative(s), nonbenzodiazepine, in ICU, 863-880
- Selenium, in clinical trials, 244
- Sensitization, and hyperalgesia, 948-949
- Sepsis, cellular ATP levels in, 231-233
in critically ill cancer patients, 551-557
treatment of, 554-557
organ dysfunction in, mitochondrial dysfunction and, evidence for, 222-225
indirect assessment of, 224-225
mitochondrial dysfunction as mechanism of, 219-237
tissue PO_2 measurements in, 222-224
- Septic shock, 698-700
in critically ill cancer patients, 551-557
treatment of, 554-557
- Septostomy, atrial, for pulmonary hypertension, 463-464
- Sheffield Scale, in agitation assessment, 970-971
- Shock, cardiogenic, 391-412. See also *Cardiogenic shock*.
circulatory, 697-719. See also *Circulatory shock*.
septic, 698-700
in critically ill cancer patients, 551-557
treatment of, 554-557
- Short-bowel syndrome, nutritional support in patients with, 757-758
- SIADH secretion. See *Syndrome of inappropriate antidiuretic hormone (SIADH) secretion*.
- Sinusitis, in critical care cancer patients, 729-730
- Sleep disorder breathing, pulmonary hypertension related to, 460
- Sputum evaluation, in evaluation of pulmonary infiltrates in critically ill cancer patients, 665
- Staphylokinase, for acute myocardial infarction, 417-418
in acute cardiac care, 388
- Starvation, thyroid alterations and, 51-52
- Stent(s), in percutaneous coronary intervention, 304-306
intracoronary, for acute myocardial infarction, 420
- Streptokinase, for acute myocardial infarction, 414
in acute cardiac care, 386
- Stress, as factor in thyroid function, 49-51
hormonal alterations caused by, 1-10.
See also *Hormonal alterations, stress-induced*.
hyperglycemia caused by, 107-124. See also *Hyperglycemia, stress-induced*.
- Stress proteins, structure and function of, 4
- Stress response, clinical relevance of, 6-7
- Stroke, hyperglycemia effects of, 116-117
- Superoxide dismutase (SOD), in clinical trials, 244
- Syncope, vasovagal, cardiac pacing in, 353-354
- Syndrome of inappropriate antidiuretic hormone (SIADH) secretion, causes of, 11-12
hyponatremia caused by, 11-23
- Systemic-to-pulmonary shunts, pulmonary hypertension related to, 459-460
- T3 resin uptake, alterations in, 46-48
- T4 concentration, alterations in, 44-45
- Tachycardia, atrial, incisional, ablation of, 346-348
ventricular, ablation of, 438-439
- Tamponade, cancer treatment agents and, 488-489
- Taxane(s), hypersensitivity reactions to, 484-485
- Telecardiology, and ICU, 293-301
future directions in, 299-300
historical perspectives in, 294-295
- Telemedicine, 293-294
in ICU, 297-299
- Tenecteplase (TNK-tPA), for acute myocardial infarction, 417

- in acute cardiac care, 387
- Thermodilution, pulmonary artery catheter effects on, 283
- Thrombocytopenia, heparin-induced, in critically ill cancer patients, 606-608
- Thrombocytopenia, heparin-induced, in critically ill cancer patients, 611-612
- in critically ill cancer patients, 604-606, 771-772
- Thromboembolic complications, in critical care cancer patients, 735-736
- Thromboembolic disease, pulmonary hypertension caused by, 457-458
- Thromboembolism, diabetic ketoacidosis and, 92
- pulmonary, in critically ill cancer patients, 630-632
- venous, in critically ill cancer patients, 608-611
- Thrombolytic therapy, for acute myocardial infarction, 384-385, 414-418
 - alteplase, 416
 - anisoctated
 - plasminogen-streptokinase activator complex, 414-416
 - lanoteplase, 417
 - reteplase, 416-417
 - staphylokinase, 417-418
 - streptokinase, 414
 - tenecteplase, 417
- in acute cardiac care, 379-390
 - contraindications to, 385
 - direct agents, 383-384
 - lanoteplase, 387
 - new agents, 387-388
 - reteplase, 387
 - staphylokinase, 388
 - streptokinase, 386
 - tenecteplase, 387
 - tissue plasminogen activator, 386
- Thrombosis, arterial, in critically ill cancer patients, 613
 - cancer treatment agents and, 494-497
- Thrombotic disorders, in critically ill cancer patients, 599-622
 - pathophysiology of, 602-604
- Thrombotic endocarditis, nonbacterial, circulatory shock and, 709
- Thrombotic microangiopathy, cancer treatment agents and, 496-497
- Thrombotic thrombocytopenic purpura, in critically ill cancer patients, 612-613
- Thyroid axis, in critical illness, pathophysiology of, 1-2
- Thyroid economy, alterations in, with nonthyroidal illness, 44-48
- Thyroid function, age as factor in, 48-49
 - alterations in, in ICU, specific disorders, 51-55
 - drug effects on, 49-51
 - environmental effects on, 49-51
 - in ICU, 43-58
 - laboratory and radiographic evaluation of, 61-62
 - starvation and, 51-53
 - stress effects on, 49-51
- Thyroid hormone, action of, 60-61
 - production of, 59-62
- Thyroid storm, 62-68
 - causes of, 62-63
 - laboratory findings in, 64-65
 - pathogenesis of, 64
 - precipitating factors for, 63-64
 - treatment of, 65-68
- Ticlopidine, in acute cardiac care, 368-371
- Tissue plasminogen activator (t-PA), in acute cardiac care, 386
- Torsades de pointes, hypomagnesemia and, 188
- Tranilast, in percutaneous coronary intervention, 312
- Transesophageal echocardiography, 265
- Transfusion(s), lung injury caused by, in critically ill cancer patients, 633-634
- Transplantation, bone marrow. *See Bone marrow transplantation.*
 - heart, for acute heart failure, 328-329
 - heart-lung, for pulmonary hypertension, 464
- Transthoracic needle aspiration, in evaluation of pulmonary infiltrates in critically ill cancer patients, 666
- Trastuzumab, heart failure caused by, 702
- Tricuspid regurgitation, 262-263
- Tumor emboli, in critically ill cancer patients, 632
- Tumor lysis syndrome, in cancer patients, 518-519
- Uremia, in critically ill cancer patients, 607
- Valvular heart disease, evaluation of, echocardiography in, 262-264
- Vancouver Interaction and Calmness Scale, in agitation assessment, 971
- Vascular access, in critical care cancer patients, 736-737
- Vascular emergencies, diagnosis and management of, 444
- Vasodilator testing, in pulmonary hypertension, 461
- Vasovagal syncope, cardiac pacing in, 453-454
- Veno-occlusive disease, pulmonary, cancer treatment agents and, 494

- Venous thromboembolism, in critically ill cancer patients, 608-611
- Ventilation, assisted, pneumonia in, 548-549
 - mechanical. *See Mechanical ventilation.*
 - noninvasive, for critical care cancer patients, 637-638
- Ventilator(s), for ARDS, 637
- Ventricle(s), left, assessment of, echocardiography in, 253-258. *See also Echocardiography, in left ventricle assessment.*
- Ventricular septal rupture, cardiogenic shock caused by, 416
- Ventricular tachycardia, ablation of, 348-349
- Viral infections, in critically ill cancer patients, 540-541
- Visual Analog Scale, in agitation assessment, 971
- Vomiting, nausea and, in critical care cancer patients, 782-785
- von Willebrand's syndrome, acquired, in critically ill cancer patients, 606-607

